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EXAMINER	
BALAOING, ARIEL A	

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2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,261	SIMONSSON ET AL.	
	Examiner	Art Unit	
	ARIEL BALAOING	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *36-71* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *36-71* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/09/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 09/30/2008 have been fully considered but they are not persuasive.

Regarding the applicant's arguments that "The first and second embodiments of US 2003/0083069 to Vadgama involve selection of a cell with a low congestion level if the signal quality difference between two cells is below a certain threshold. *See,* e.g., paragraphs [0083] and [0122] of Vadgama. In essence, in these embodiments Vadgama provides a screening method wherein a cell is selected based on a relative comparison between signal quality of two cells. Vadgama's first and second embodiments do not even use congestion as cell selection criteria except in "certain circumstances" in which the signal quality difference between two cells is below a certain threshold" (see page 15 of the remarks); the examiner respectfully disagrees. Vadgama as seen in paragraph 19 and 20 a cell selection means based on both a congestion level (paragraph 19) and a measured signal quality (paragraph 20). Furthermore, paragraph 13 and 17 state that the mobile station periodically makes a cell selection which discloses that the selection techniques disclosed are used for each access selection as amended.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **a terminal measures a load** (Claims 36, 60, and 70), *see page 15 of the remarks*) are not recited in the rejected claim(s). Although the claims are interpreted in light of

the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claim 37, and similarly claims 38, and 45, the applicant argues "Vadgama's term "bit error rate" should not to be confused with the term "bit rate" as used by Applicants. The bit rate is a measure of the number of bits that are conveyed or processed per unit of time. By contrast, the bit error rate or BER is the ratio of number of bits incorrectly received to a total number of bits" (*see page 16 of the remarks*); the examiner respectfully disagrees. The limitation "estimated radio link bitrate" can be interpreted as various aspects of a radio link with regards to a bit rate (e.g. bit error rate, throughput, data rate, etc.) and therefore, Vadgama's bit error rate (BER) meets the limitation as recited. Furthermore, Vadgama also discloses a that a determination of downlink throughput can also be used for cell selection (see paragraph 24, 89).

Claim Rejections - 35 USC § 112

2. Claim 71 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 71 recites the limitation "a unit configured to determine" in line 4, 6, and 8 of the claim. This should be label for example "a first unit", "a second unit", etc. or "a unit" and "said unit" to specify if the units are separate from each other.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 36-39, 45, 51, 52, 54, 56, 58-62, and 68-71 are rejected under 35 U.S.C. 102(b) as being anticipated by VADGAMA (US 2003/0083069).

Regarding claim 36, VADGAMA discloses a method of selecting an access network from among one or more access networks capable of providing service to a mobile communication station (abstract; periodic cell selection), the method comprising: determining for each access selection a radio quality [**signal quality**] from the terminal to each access network, determining, for each access selection and for each access network, a utilization factor [**congestion/load**] for at least one node [**base station/cell**], determining, for each access selection and for each access network, a user perceived data quality [**threshold/selection**], based on said determined utilization factor and said determined radio quality for the access network, and selecting at least one of said access networks, based on the determined user perceived quality (paragraph 16-20, 24-29, 48-52, 83, 87-92; base station selection based on measured congestion and signal quality).

Regarding claim 37, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising, estimating a radio link bitrate .mu. for each access, based on the determined radio quality q, and determining the user perceived data quality, based on the determined utilization factor and the estimated radio link bitrate (paragraph 21, 104; bit error rate, signal to interference ratio).

Regarding claim 38, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising

estimating the radio link bitrate according to:.mu.=g(q)where g is an access specific function (paragraph 21, 104; bit error rate and signal to interference ratio is calculated as a specific function).

Regarding claim 39, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein the radio link quality q is represented by at least any one of pilot signal strength, beacon signal strength, Ec/N0, SIR, C/I, bit error rate, block error rate, and packet error rate (paragraph 21, 104).

Regarding claim 45, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising representing said user perceived quality with a data bit rate for the access network (paragraph 21, 104; bit error rate, signal to interference ratio).

Regarding claim 51, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising selecting the at least one access network before the terminal is connected to an access network (paragraph 16-20, 24-26, 29, 48-52, 83, 87-92).

Regarding claim 52, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said access networks utilize the same type of radio access technology (Figure 1, 2; paragraph 71, 72).

Regarding claim 54, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said access networks belong to the same network (Figure 1, 2; paragraph 71, 72).

Regarding claim 56, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said access network belong to the same operator (Figure 1, 2; paragraph 71, 72; operator is seen as the same network).

Regarding claim 58, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein the one or more access networks include at least one of WCDMA, CDMA2000, GSM, WLAN or GPRS (paragraph 71-73, 167).

Regarding claim 59, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said node comprises at least one of an access point, and base station (paragraph 16-20, 24-26, 29, 48-52, 83, 87-92).

Regarding claim 60, VADGAMA discloses a system enabling selection of an access network from among one or more access networks capable of providing service to a mobile communication station [**mobile unit**], comprising: means for determining for each access selection a radio quality [**signal quality**] from the terminal to each access network, means for determining, for each access selection and for each access network, a utilization factor [**congestion/load**] for at least one access point [**base station/cell**], means for determining, for each access selection and for each access

network, a user perceived data quality [**threshold/selection**], based on said determined utilization factor and said determined radio quality for the access network, and means for selecting at least one of said access networks, based on the determined user perceived quality (paragraph 16-20, 24-26, 29, 48-52, 83, 87-92; base station selection based on measured congestion and signal quality).

Regarding claim 61, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said determining means further comprise means configured to estimate a radio link bitrate .mu. for each access, based on the determined radio quality q, and said determining means are further configured to determine the user perceived data quality, based on the determined utilization factor and the estimated radio link bitrate (paragraph 21, 104; bit error rate, signal to interference ratio).

Regarding claim 62, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said estimating means are configured to estimate the radio link bitrate according to:.mu.=g(q)where g is an access specific function (paragraph 21, 104; bit error rate and signal to interference ratio is calculated as a specific function).

Regarding claim 68, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said radio quality determining means are further configured to estimate .mu. based on at least one of pilot signal strength, beacon signal strength, Eb/N0, SIR, and C/I (paragraph 21, 104).

Regarding claim 69, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said node comprises at least one of an access point, and base station (paragraph 16-20, 24-26, 29, 48-52, 83, 87-92).

Regarding claim 70, VADGAMA discloses A mobile communication station [**mobile station**] capable of receiving service from one or more access networks, comprising: means for determining for each access selection a radio quality [**signal quality**] from the terminal to each access network, means for determining, for each access selection and for each access network a utilization factor [**congestion/load**] for at least one node, means for determining for each access selection and for each access network, a user perceived data quality [**threshold/selection**], based on a utilization factor for the access network, and means for selecting at least one of said access networks, based on the determined user perceived quality and the radio quality (paragraph 16-20, 24-26, 29, 48-52, 83, 87-92; base station selection based on measured congestion and signal quality).

Regarding claim 60, VADGAMA discloses a system enabling selection of an access network from among one or more access networks capable of providing service to a mobile communication station [**mobile unit**], comprising: a unit configured to determine for each access selection a radio quality [**signal quality**] from the terminal to each access network, a unit configured to determine, for each access selection and for each access network, a utilization factor [**congestion/load**] for at least one access point [**base station/cell**], a unit configured to determine, for each access selection and for

each access network, a user perceived data quality [**threshold/selection**], based on said determined utilization factor and said determined radio quality for the access network, and a selector unit configured to select at least one of said access networks, based on the determined user perceived quality (paragraph 16-20, 24-26, 29, 48-52, 83, 87-92; base station selection based on measured congestion and signal quality).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069) in view of TENNISON et al (US 2002/0046292).

Regarding claim 46, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose further comprising representing said user perceived quality with an active session data throughput for the access network. In a similar field of endeavor, TENNISON discloses representing a user perceived quality with an active session data throughput for an access network (paragraph 19). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of TENNISON, since such a modification could be used to determine a network selection based on specified and configurable rules.

5. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069) in view of ABRAHAM et al (US 2003/0156580 A1).

Regarding claim 47, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said data bitrate comprises an estimated Session Circuit Switched Equivalent (CSE) bitrate. ABRAHAM discloses wherein a data bitrate comprises an estimated Session Circuit Switched Equivalent (CSE) [**maximum bearer rate**] bitrate (paragraph 31, 39). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of

ABRAHAM, since the use of a maximum bearer rate allows various class of services to be established based on priority and device capabilities.

6. Claims 40-44, 48-50, and 63-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069).

Regarding claim 40, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose determining the user perceived quality Q.sub.u according to:Q.sub.u=.mu.*f(.rho.)where .mu. represents the radio link bitrate, and .rho. represents the utilization factor for the access. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 41, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose determining the user perceived quality according to:Q.sub.u=.mu.*(1-.rho.)where .mu. represents the radio link bitrate, and .rho. represents the utilization factor for the access. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 42, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose

wherein .mu. is constant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 43, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein .rho. is constant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 44, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein a function is specific for each type of access network (paragraph 7, 8, 26).

Regarding claim 48, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein .rho. is estimated by the expression: .rho. = 1 - P CCH P TOT ,where P.sub.CHH is the common power, and P.sub.TOT is the total power. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 49, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein P.sub.CHH is estimated from the received pilot power and a factor F.sub.CCH that compensates for the other common channels, and P.sub.TOT is estimated from the received wideband signal strength. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 50, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses determining the utilization by measuring at least a received pilot power and a total power from a received wideband signal strength, whereby the utilization is estimated (paragraph 21, 23, 24).

Regarding claim 63, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said user perceived data quality determining means (14) are configured to determine the user perceived quality according to:.mu.*f(.rho.) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 64, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose said user perceived data quality determining means are configured to determine the user perceived quality according to:.mu.*(1-.rho.) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 65, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said utilization determining means are configured to estimate .rho. according to: .rho. = 1 - P CCH P TOT ,where P.sub.CHH is the common power, and P.sub.TOT is the total power. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 66, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein P.sub.CHH is estimated from the received pilot power and a factor F.sub.CCH that compensates for the other common channels, and P.sub.TOT is estimated from the received wideband signal strength. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables,

since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 67, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein the utilization is determined by measuring at least a received pilot power and a total power from a received wideband signal strength, whereby the utilization is estimated (paragraph 21, 23, 24).

7. Claims 53, 55, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069) in view of AMERGA et al (US 2004/0116110).

Regarding claim 53, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said access networks utilize different types of radio access technologies. In the same field of endeavor, AMERGA discloses wherein access networks utilize different types of radio access technologies (abstract; paragraph 6-8, 10; inter-rat cell selection). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of AMERGA, since such a modification would allow a mobile devices capable of services using multiple formats and protocols to select a neighbor cell of varying access technologies based on a predetermined criteria.

Regarding claim 55, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said access networks belong to different networks. In the same field of endeavor, AMERGA discloses wherein access networks belong to different networks (abstract; paragraph 6-8, 10; inter-rat cell selection). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of AMERGA, since such a modification would allow a mobile devices capable of services using multiple formats and protocols to select a neighbor cell of varying access technologies based on a predetermined criteria.

5. Regarding claim 57, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said access networks belong to different operators. In the same field of endeavor, AMERGA discloses wherein access networks belong to different operators (abstract; paragraph 6-8, 10; inter-rat cell selection). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of AMERGA, since such a modification would allow a mobile devices capable of services using multiple formats and protocols to select a neighbor cell of varying access technologies based on a predetermined criteria.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARIEL BALAOING whose telephone number is (571)272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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